

W. ALLEN ASSOCIATES

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6300 BUSS CORRECTION KIT

General Information

The hardware contained herein is quite simple to install. If you are not comfortable with installation or have no prior experience, we recommend you have a service technician install this kit.

A NOTE OF CAUTION -- All chips you will be handling, both in removal and installation, are very fragile and the pins can break with even a little excess pressure. Before you remove a chip from your machine, we suggest you label the IC orientation. This will allow you to successfully reconfigure your machine back to CGA or Monochrome. Putting a chip in backwards could result in either a blown chip or blown board.

If you are upgrading your machine to Hercules, EGA or VGA, be sure you have already successfully installed AT&T's ROM BIOS 1.43. If you do not have this, call W. Allen Associates to order. This part may also be obtained from your local authorized AT&T dealer.

Reading IC Locations: AT&T uses a grid to identify the location of ICs (Integrated Circuits) on a board. One direction is numbers, the other direction is letters. It is much like a reading a map grid. Location 5H would just be the intersection of column 5 and row H. Additional identification will be given to insure that the locations are clear and unambiguous.

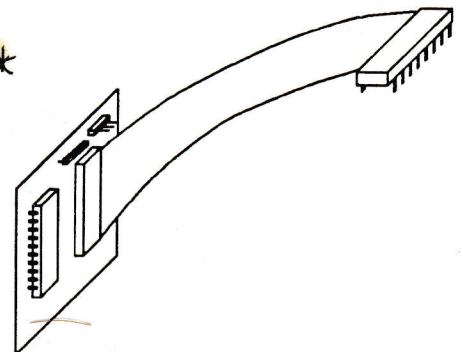
INSTALLATION INSTRUCTIONS

STEP A: Opening The Case

There are two screws at the back of the 6300 near the top. These must be unscrewed to take the top case off. The screws will remain in the back panel and not come all of the way out. After the screws have been loosened, slide the case forward and lift off.

STEP B: Correcting the Buss Problem (Both ABC01 & ABC02 kits)

You will be working with the bus expansion board located under the top cover of the machine. Plug the correction board into one of the two, three or four * (depending on the machine's vintage and make) 16 bit expansion connectors -- we used the furthest right for example purposes (see figure 1). The correction board and ribbon cable should face the right when viewed from the front of the machine. The ribbon cable has a blue-gray side and a blue-gray with colored stripes side. On the colored striped side, there is one colored stripe which is on the edge of the cable. This stripe will be facing the cover of the machine when the correction board has been correctly plugged in.



* Remove the IC labeled PQB1 or PA96. Replace this IC with the plug connector

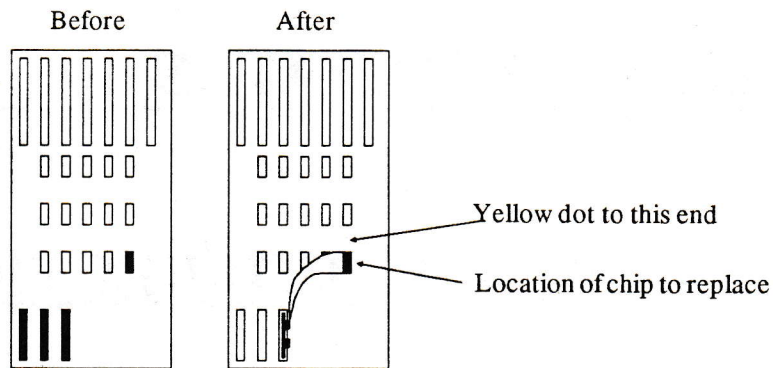


Figure 1: Expansion board before and after Buss Kit

located at the end of the ribbon cable. Be sure to have the yellow dot on the plug connector face the rear of the machine (see figure 1). Check to ensure the colored edge stripe on the ribbon cable is toward the rear of the machine. *Plugging the cable in backwards will destroy the Buss Correction Board.* In some machines the replacement for the PQB1 or PA96 may pop out of the socket ... you may delicately bend out the pins a little to help it sit in the socket. If the plug continues to pop out, a 16 pin wire wrap socket (available from electronics stores such as Radio Shack) may be purchased. The Buss Correction Board will plug into the socket and the legs of the wire wrap socket will then plug into the PA96/PQB1 socket. The length of the legs of the wire wrap socket may be trimmed, if desired.

STEP C: Boot the machine

Turn your computer on now to insure that it will boot. If it does not boot, check the seating of the plug at the end of the ribbon cable. This is the most likely problem. If this does not correct the problem, recheck installation of Buss Correction Kit (especially the end of cable with the yellow dot). Is the yellow dot facing the back of the machine? Do the keyboard lights stop flashing? Call W. Allen Associates for more help if needed.

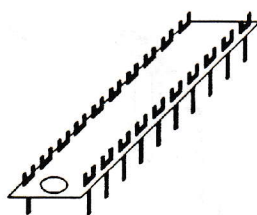
Note: For those not installing a new video card, please skip steps D through G and continue with step H.

STEP D: Disabling the Resident Video Card

There are three types of resident video cards in the AT&T 6300. Look for the GO number on the label at the top center of the resident video board or etched into the silk screen at the front edge of the board. Refer to the applicable number below.

GO317: This will need to be taken out and replaced with a Video Bridge Adapter (Com Code # 405067281). This has been discontinued, but many AT&T service centers still have some in stock. You can also upgrade your resident video board to a GO318 or GO380 board through one of the AT&T service centers.

GO318: If you have purchased our *ABC01 6300 BUSS CORRECTION Kit*, you will disable the board with the enclosed video disabler chip which has a yellow dot on it. To disable the resident video board you may need to remove some of the boards occupying expansion slots. Looking from the front of the computer, the resident video board is located to the far left.



Video Disabler (ABC01 kit only)

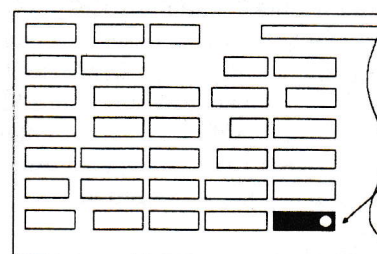


Figure 2: Left half of video board

Locate the IC at location 5H or 5G (depending upon the vintage) See figure 2. It will be labeled PL68 and have 20 pins. We recommend marking the orientation of this chip so that it may be correctly re-installed if the need arises. *Plugging this chip in backwards may destroy the resident video card.*

Carefully remove this IC (PL68) and replace it with the disabler chip (single IC-like device) that comes in this kit. The yellow dot should be facing the back of the machine (See figure 2). It is important to avoid bending any pins during installation. After installing, visually check for any bent pins. If you have bent them, your kit may not work. Correct any bent pins before continuing. This completes disabling the GO318 resident video card.

GO380: The GO380 boards has jumpers on it labeled W1, W2, W3 and A. To disable this board, move jumper W1 from 2 and 3 to 1 and 2. This jumper is located about half way down between the first and second columns. Should this jumper not be working, you can use the disabler chip we make and follow the directions for the GO318 video board (instead of moving the jumpers).

STEP E: Install the new video board

INSTALL YOUR 3rd PARTY VIDEO BOARD per manufacturer's instructions. Be sure all the 3rd party video board's dip switches are set correctly for your machine and monitor. *If you have any questions, please call the card manufacturer for help.*

Step F: Set the mother board dip switches

Turn the machine upside down to access the mother board. The bottom case removes in a similar manner to the top case. Next, you will need to fix your Mother Board dip switch block # 1 (at 7W) so that switches 5 and 6 are set to ON for EGA and VGA (to insure proper contact, we suggest you flip these switches off and on five times before setting appropriately). For Hercules, switches 5 and 6 are set to OFF. Once the card is installed, the cable connected and dip switches changed, you are ready to boot up your computer.

Step G: Boot the machine

Boot the machine to see that everything is operating properly. If there are any problems and you have a modem, disconnect it and reboot (there are often conflicts with VGA cards). If this does not correct the problem, please refer to the trouble shooting guide at the end of these instructions.

STEP H: Setting the bus speed

The buss correction board comes with the option for two different bus speeds. There is a jumper on the buss correction board that sets the speed. As shipped from W. Allen Associates, the board is set for standard AT&T **USE .** 6300 buss timing. The faster setting will improve expansion bus operations an average of 20%. We recommend booting first with the standard timing. When everything appears to be working fine, change the location of the jumper to the right hand pair of pins. This will increase the bus speed. If there are any add-on cards that do not appear to work properly, then the bus will have to operate with standard timing.

STEP I: Replacing the case

Before replacing the case(s), replace any expansion boards you might have removed in Step B. Reinstall the case by putting the case back on the machine, pushing it down and sliding it back. The screws will then need to be screwed in.

W. ALLEN ASSOCIATES COMPLIMENTARY SOFTWARE DISK

The enclosed disk has five software programs and a READ.ME file which explains the use and application of the various programs. This is provided to our customers as a service. No warranty is provided on the software.

Two of the programs (FASTVID.COM and FV1632.COM) will help increase the speed of the video BIOS up to three times. These 2 programs and one other (VVFIX.COM) will help with a ROM BIOS incompatibility found to affect certain 3rd party video cards, VGA in particular. **WARNING: These three programs are only to be used with EGA or VGA cards.** Use of these programs with cards other than EGA or VGA will cause the machine to lock up.

Some VGA cards (for example: Video 7, Paradise Plus, Sota) require the use of the enclosed software due to an incompatibility with the AT&T ROM BIOS 1.43. The three W. Allen Associates programs which may be used to fix this problem are: VVFIX, FASTVID, and FV1632. One of the differences between these programs is the use of main memory. VVFIX takes up NO memory and just reinitializes the card to take care of the ROM incompatibility. FASTVID AND FV1632 do take up memory space (as much as 32K). They not only reinitialize the video card, they also significantly improve BIOS routine performance by up to three times--a noticeable speed-up. This is accomplished by moving the video bios from the video card to the main memory. FASTVID works on only some cards because it makes certain assumptions which are not universal. This was done so that less memory would be used up. We suggest you try this program first to see if it will work with your 3rd party video board (only EGA, or VGA). All cards work with FV1632 so use this if you want to increase bios speed and the FASTVID does not work. The remaining 2 public domain software programs on the disk you may find helpful (see the READ.ME file for details).

NOTE: There are some public domain and other commercial software programs also available which are similar to the ones we offer. Many 3rd party video cards already incorporate the fix and BIOS speed-up so this software may not be required...it is only provided as a service.

Please see the read.me file for more detailed information. Install the software per your AT&T DOS manual Autoexec.bat instructions (look in index). To view the read.me file, get into the root directory and type: "type read.me", return.

Mother board dip switch settings (reference)

Switch 0 at position 7T

Position

1,2,3,4,8

Memory configuration settings

Common settings

256K on mother board 1 on, 2 off, 3 on, 4 on, 8 off

256K on mother board, 384K on expansion board 1 off, 2 on, 3 off, 4 on, 8 off

640K on mother board 1 off, 2 on, 3 on or off, 4 off, 8 off

Position

Off

5

You have an 8087 math coprocessor

6

Z 8530 serial controller

7

not used

On

You do not have an 8087

8250 serial controller (normal setting)

not used

Switch 1 at position 7W

Position

Off

1

96 Track per inch floppy drive

2

Fast floppy startup (250mS)

3

Use external hard disk code (normal for non-AT&T installed)

4

Slow video scroll speed

5,6

Display type

On

48 track per inch floppy drive (normal setting)

Slow floppy startup (800mS, normal setting)

Use internal hard disk code

Standard video scroll speed (normal setting)

EGA/VGA5 on 6 on

Resident video 5 on

6 off

IBM monochrome, Hercules monochrome or InColor card

5 off

6 off

7,8

Number of Floppies attached

1 floppy

7 on

8 on

2 floppies

7 off

8 on